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SAN FRANCISCO NAVAL SHIPYARD
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JUL 15 1947

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From: Commander, Naval Shipyard, San Francisco, California
To: Chief of the Bureau of Ships (Code 400-689)
Chief of the Bureau of Medicine and Surgery
(Atomic Energy Group)
Attn: Rear Admiral C. J. Brown, (MC) USN

Subj: Monthly Progress Report of Radiation Laboratory for Month of June 1947; submission of

Ref: (a) BuShips-BuMed SECRET ltr S(99) Ser. 005800 of 18 Feb 1947.

Encls: (H.W.)
(A) Radiation Laboratory Administrative Progress Report for Month of June 1947.
(B) Radiation Laboratory Technical Progress Report for Month of June 1947.

1. Enclosures (A) and (B) reporting the progress of work at the Radiation Laboratory for the period 1-30 June 1947 are forwarded herewith in compliance with reference (a).

PHILIP LEMLER

A-4

7-15-47

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Administrative Progress Report for Month of June 1947

A. NON-SCIENTIFIC PERSONNEL

1. Lt(jg) R. E. Edgar, USN reported for duty in the laboratory on 24 June as Administrative Assistant. He is assuming all of the functions which will be assigned ultimately to the employee who fills the CAF-10 Administrative Assistant position being set up.

2. One additional clerk-typist, Mrs. Josephine Winkler, has been placed in a new CAF-3 position established. An additional CAF-3 clerk stenographer position has been requested and indications are that this position will be approved shortly. The administrative and correspondence functions of the laboratory are growing very rapidly, and it is envisioned that several additional clerks and stenographers will be required in the very near future. These will be necessary for such functions as preparation of reports, maintenance of the technical library, duplication services as well as the routine functions of handling dispatches, mail, telephone calls and miscellaneous administrative functions.

3. The position of Property and Supply Clerk has been approved as CAF-6. Two very good prospects with previous experience in CROSSROADS and post-CROSSROADS work are being processed to determine qualification for employment in this capacity.

B. SECURITY

1. The fence around the outside of the laboratory has been completed. As soon as the arrangements have been completed for signalling the guard inside the building from outside the fence, all gates will be locked other than at normal working hours and the marine guard outside the building will be secured.

2. The services of civilian guards inside the building on a 24-hour basis have been obtained. This has eliminated the necessity of taking badly needed enlisted personnel from their work during regular work hours for assignment to guard duty; and, also, it has eliminated the unsatisfactory situation whereby enlisted personnel were working during the day and standing guard duty at night.

3. Work has been commenced to convert a portion of Building 224, which was a multicell, concrete bomb shelter, to a storage space for radioactive samples until such time as space becomes available in Building 351.

4. The situation with respect to clearance of laboratory personnel is not yet satisfactorily settled. Representatives of AEC advise that since the naval clearance is restricted to certain specific items, their technical groups can show laboratory personnel who have naval clearance, indexes of material available only after careful study of the indexes and removal of items not strictly covered in the naval clearance specification. On the other hand, Navy personnel at the laboratory with "Q" clearance (Lt. Morton and Lt. Morrison) may see unexpurgated editions of indexes. Further study is being made of this situation.

C. LABORATORY PROCEDURES

1. Steps are underway to standardize laboratory procedures throughout the organization. Standard instructions are being promulgated as administrative orders, memoranda and notices. A standard form has been adopted for use in establishing laboratory research projects. All projects will be set up on this form in the very near future for submission to the Bureaus.

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Technical Progress Report for Month of June 1947.

A. FACILITIES

1. The equipment situation improved somewhat during the month of June, but long periods between award of contract and delivery of material continue to hamper expeditious installation of necessary facilities. Studies are continuing and a determined effort is being made to eliminate every possible delay in the procurement system, to anticipate requirements as much as possible, and to utilize most readily available materials. In connection with the latter item, laboratory personnel visited the Electronics Reutilization Plant at Mare Island and requisitioned a considerable quantity of standard expendable materials needed for stock, also, a dispatch request for release of several test equipments held by "ERUPT" and required for the Physics Group was sent to the Bureau of Ships.

2. Five autoscalers from Tracerlab were received and have operated excellently thus far. All indications are that they are of excellent workmanship and will continue to perform well. Some significant items of equipment were received by the Physics Group, also. These included :

Ilford special proton - recoil plates.
Lauritsen electroscopes
Basic hand tools
Synchroscope, oscilloscopes and some electronic test equipment

3. Preliminary studies of final plans for the conversion of Bldg. 351 are being conducted in order to minimize delays after approval of the project is received. In view of the anticipated time interval between the present and the date of moving into the new building, however, tentative plans are being prepared for more efficient utilization of the space currently available in Building 506. It is considered that some additional facilities must be installed and existing rooms slightly revised in order to provide ample space for the program envisioned during the next twelve months.

4. Some equipment was shipped from the laboratory during the month of June. The principal items were as follows:

One Filter Queen to Philadelphia Naval Shipyard
One " " to Puget Sound Naval Shipyard
Two Esterline Angus Recorders to U.S.S. CHILTON
One cylinder of Methane with double reducing valve to U.S.S. CHILTON
One dosimeter (presumably Photovolt "500") to U.S.S. CHILTON

5. The animal colony received a good start with the arrival of rat cages from NMRI and shipment of 120 rats from the same source. The housing facilities for the animals are adequate and breeding of stock can commence shortly. It is considered that additional personnel trained in animal husbandry will be required in the near future. This will be the subject of separate correspondence. Two shipments of rats trapped on the PENSACOLA arrived during the month bringing the total colony to 20 pending arrival of the shipment from Bethesda. Five of the rats from the PENSACOLA have died, and their carcasses are being ashed for determination of radioactivity content.

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D. SCIENTIFIC PERSONNEL

1. Mr. C. J. Camp reported for duty as Electronics Engineer (P-3). Mr. William Lee accepted a position as Assistant in Chemistry (P-1) to report about 1 August. Mr. R. L. Davis accepted a position as Assistant in Physics (P-2) to report about 9 July.

2. Lt. Comdr. R. A. Conard (MC) USN reported for duty as Bureau of Medicine and Surgery Projects Officer.

3. A considerable number of candidates from the University of California and the San Francisco area were interviewed during the month for positions in chemistry, physics and biological science. Several of these are promising candidates for positions ranging from P-5 to P-1, and the qualifications of all are being studied carefully with a view to making offers to the most desirable. In addition, active contact is being maintained with other scientists throughout the country, some of whom will be available for employment during the latter part of the year. Dr. Condit expects to attend the annual meeting of the American Physical Society at which additional prospects for the positions in physics are expected to be contacted.

4. Comdr. Fee and Lt(jg) Morton visited the University of Chicago and Los Alamos Scientific Laboratories during the early part of the month. Drs. T. H. Davies and R. H. Brown at the University of Chicago, and Dr. Wright Langham at Los Alamos were approached for consideration of the position of Technical Director (P-7). Dr. Brown definitely refused consideration, Dr. Langham was extremely doubtful, and Dr. Davies was a possibility desiring to consider the matter further before committing himself. Most of the young men qualified for this position are still interested in individual research unhampered by administrative responsibilities. It is most difficult to find the man desired at the P-7 level since those tending towards research coordination or consultation work are in industry at high salaries. It may be necessary ultimately to consider reclassification of the position to P-8 to find a man who can suitably fill the vacancy.

5. Additional positions of Research Associate in Physics (P-3 and P-4) have been approved and established. This action was well timed, as a Mr. William Brown, who shows great promise for the laboratory, has been interviewed and is in a position to accept employment as a Physicist (P-4) about 15 August.

C. LABORATORY RESEARCH AND DEVELOPMENT WORK

1. The following projects were completed during the month:

(a) Analysis of soot and flue gas from power station boilers burning radioactively contaminated oil from U.S.S. GASCONADE.

(b) Radiochemical analysis of fuel oil from U.S.S. CRITTENDEN.

(c) Testing and evaluation of possible means of decontaminating wood decks on U.S.S. PARCHE.

(d) Further studies of means of determination of background during monitoring of target vessels.

(e) Analyses of filter paper and canisters from initial tests of efficiency of gas masks in capturing fission products.

(f) Analysis of clothing and RBA from Kwajalein to determine extent of radioactive contamination.

(g) Preparation of several series of film badges exposed to standard radium sources for set periods of time at known distances. These produced a series of film densities up to 0.1R for general reference. One set of the series was sent to Naval Shipyard Puget Sound and one to the Bikini Re-Survey Unit.

(h) An Eastman Transmission densitometer was given a preliminary test to determine its suitability for replacing Ansco-Sweet densitometer.

2. The following projects were initiated or well underway during the month:

(a) Analyses of gas mask canisters worn by personnel on board target ships.

(b) Determination of particle size of dust encountered on ships contaminated with radioactive materials.

(c) Determination of solubility of radioactive contaminants.

(d) Elementary analysis of contaminated dust.

(e) Testing of a spray method of decontamination of the PARCHE.

(f) Sampling of remaining fuel oil on U.S.S. GASCONADE for radiochemical analysis.

(g) Sampling and analysis of eight different areas on PARCHE varying in type of surface, geometric configuration, and intensity of radiation.

(h) Testing of lye and other paint removers as methods of decontamination on exterior of conning tower of PARCHE.

(i) Design of special apparatus for production scale testing of decontamination methods under laboratory conditions.

(j) Preparation of samples for testing of decontaminating solutions in laboratory.

(k) Testing methods for routine analysis of fission elements.

(l) Measurement of rate of decay of fission product aggregate.

(m) Determination of maximum and average beta and gamma ray standards of various energies.

(n) Testing of end-window Geiger-Mueller tubes of special design for use as means of alpha particle counting.

(o) Modification of autoscalers for automatic counting of samples of very low intensity for long periods.

(p) Ashing of carcasses of five rats which had died subsequent to capture on PENSACOLA, and determination of radioactivity contained in ash.

(q) Construction of three chambers for exposure of rats to inhalation of fission products.

(r) Reorganization of change house facilities in order to convert to an ideal unit.

(s) Fabrication of a dust tumbler and fan for use in comparative efficiency tests on masks in filtering out radioactive dusts.

(t) Tests of Willson "750" mask for protection of personnel against radioactive dust and fume inhalation.

(u) Construction of three scalers by Electronics Section.

3. Radiological surveys were continued during the month on the GASCONADE, CRITTENDEN, PENSACOLA and HUGHES. The final report on the CRITTENDEN is now under preparation. Work on the GASCONADE is about thirty percent complete. The INDEPENDENCE arrived and safety monitoring was undertaken immediately. Decontamination of the structure of the PARCHE above the conning tower and those portions of the above water hull which can not be exposed to sandblasting was being accomplished using lye solution on the large exposed areas and a combination citric-hydrochloric acid solution on small parts and interior surfaces. Sandblasting is scheduled to commence on 14 July. The following special tasks were also accomplished by the laboratory monitors:

(a) Inspection parties on ex-target vessels at Mare Island.

(b) Check of radium shipment at Moffett Field.

(c) Inspection of drydock, keel blocks, hose and lines after undocking of GASCONADE.

(d) Monitoring of TCS transceivers used on INDEPENDENCE.

(e) Monitoring of ATF-103 and ATF-108 for contamination accumulated incident to towing INDEPENDENCE back to San Francisco.

D. SERVICE WORK

1. Twenty-two X-263 meters, ten 263 meters and five 247 instruments were repaired and calibrated during the month. Seventy low-voltage GM tubes were received from NSD Oakland.

2. Increase of the upper limit of the instrument was accomplished on about half the 263 meters by modification of circuit components within the instruments. Analysis of components in the 247 meters indicated that the cans were not secure in the sockets. Plans are underway to use foam rubber in the bottom of the cans to render them more secure.

3. The workload in Medical Health Section remained reasonably constant at about the same level as for May.